

5112796



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1270 Aberdeen St
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Reprint
TW

D3582-1-BENT **Job Sheet 183563**



Part No: D3582-1-BENT

Job Qty: 5 ea

Part Name: Skidtube Assembly BK117



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 9/20/18

Job Tracking No:

Due Date: 10/12/18

Created By: Jesse White

Type: Stock

Description: SIOP

Note: DWG D3582 page 1 REV.E SHEET 1 IPP REV:A 14.01.17 NEW ISSUE DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	5 Ea		10/12/18	0.00	0.00	Start Up Skid tubes		
110	CNC Bend Skid tubes	5 pcs		10/12/18	0.26	1.12	CNC Bend Skid tube		
120	QC	5 pcs		10/12/18	0.00	0.00	QC5		
130	Packaging	5 pcs		10/12/18	0.00	0.00	Packaging3-1		
140	QC21-SA	5 Ea		10/12/18	0.00	0.00	QC21		

Part Op 110 - Bend tube as per program D3582 on CNC Bender and Dwg D3582. Folio 3, use bending aid DT9632 2- cut fwd end
Descriptions: of tube as per dwg

130 - LOCATION : LG002

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
		5 ea (1 ea)	00. Start up Operation	S084714
				Allocated 0

Part: D3582-1-BENT
Job No: 183563
Serial No/Batch: S112796
Revision:
Inspector:
Exp Date:
Instructions: Various STC's

Date: 12/11/18



Container No: S112796

1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

18 12:43 PM dart.white.jesse

Entered:

DAS
53
9-89

Date:

DEC 13 2018



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No.

18-7032

Route update only ☐

Job:

183563

Part No.

D3582-1-BENT

DISPOSITION

Rework ☐
Scrap ☒
Use-as-is ☐

DEPARTMENT/PROCESS

Skid-tube ☒	Cross tube ☐	Eng. (Non-AW) ☐	Engineering ☐
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Water Jet ☐
Large Fab ☐	Finishing ☐	Rec/Store/Packaging ☐	Supplier ☐
			Quality ☐

Date :

18-12-11

Sequence #:

16

QTY Affected :

1

MRB (QSI042)

DAS
9
9-89

18-12-11

Description Work Order Deviation

Disposition

1 of the 5 tubes UNDERBENT. Cap Angle
@ 5.1°. Height 0.250" UNDER

SCRAP the AFFECTED tube

Completed By

BE

Lead hand / Supervisor

18-12-11

QC / QA Coordinator

DAS
9
9-89

18-12-11

Root Cause

Operator	☐
Manufacturing Process	☒
Equip/Tooling	☐
Handling/Presservation	☐
Material	☐
Product Improvement	☐
Process Improvement	☐
Human Factors	☐

FAULT CATEGORY

☐ Pressure/Forced	☐ Contamination	☐ Power Loss/Surge	☐ Positioned Wrong
☐ Bending	☐ Misaligned/off center	☐ Folio/Program	☒ Outside Tolerance
☐ Crushing	☐ BOM/Route	☐ Grain Direction	☐ Drawing
☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Finish
☐ Crimp/Kink/Ripple/Wave/Twist	☐ Incomplete/Unclear Instructions	☐ Wrong Stock Pulled	☐ Part Lost/Missing
☐ Marks/Chatter	☐ Drill Holes	☐ Out of Sequence	☐ Misread
☐ Mislabeled	☐ Fit/Function	☐ Off-set/Set-up	

Other/Details:

ITEM	Qty -041	Part Number	Description
	X	D3582-041	SKIDTUBE ASSEMBLY
1	1	D2962-150	EXTRUSION
2	1	D2964	CAP
3	1	D2965	CAP
4	1	D2971	CROSS BOLT SPACER
5	1	D3508-3	WEARPLATE
6	1	D3508-9	WEARPLATE
7	1	D3508-11	WEARPLATE
8	1	D3508-13	WEARPLATE
9	1	D3558-3	GASKET
10	1	D3558-9	GASKET
11	1	D3558-11	GASKET
12	1	D3558-13	GASKET
13	1	D3584-1	WEB
14	3	D3662-1	CROSS BOLT SPACER
15	1	D3662-3	CROSS BOLT SPACER
16	2	D5304-1	CROSS BOLT SPACER
17	2	D5520-1	DOUBLER
18	28	AN3C4A	BOLT
19	2	AN3-5A	BOLT
20	2	AN4-4A	BOLT
21	28	NAS1149C0332R	WASHER (AN960C10L)
22	2	NAS1149D0332J	WASHER (AN960JD10L)
23	2	NAS1149D0416J	WASHER (AN960JD416L)
24	36	AEIS-1032-130	INSERT
25	2	ALS7-428-165	INSERT
26	68	CR3212-5-05	CSK RIVET, CHERRY MAX

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER QSI 005 4.1 PRIOR TO INSERTING D3584-1 WEB. POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3. ANTI-SKID PAINT AS INDICATED TO 1.00 ABOVE CENTER LINE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 18.2 lbs
- 8) WELDING: PER DART QSI 004.
- 9) INSERT D3584-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 AFTER BENDING.
- 10) USE DART DRILL TEMPLATE DT8900 TO LOCATE AND DRILL Ø0.297 HOLES (36 PLACES) FOR WEARSHOE INSERTS. INSTALL AEIS-1032-130 PER SECTION G-G (36 PLACES) AFTER FINISH. SEAL WEARPLATE BOLTS WITH SIKAFLEX-241/-291.
- 11) DO NOT INSTALL AN3C4A BOLTS AND NAS1149C0332R WASHERS IN INDICATED LOCATIONS
- 12) LOCATE QTY (34) HOLES ONTO THE SKIDTUBE PER D5520-1 DOUBLER AND DRILL Ø0.161 THRU SKIDTUBE AND DOUBLER USING DT10309. COUNTERSINK Ø0.286 x 100° (34 PL) PER DOUBLER AND INSTALL EACH D5520-1 DOUBLER USING QTY (34) CR3212-5-05 CSK RIVETS.

RELEASED
2017-08-11
EN 17-547

E	MOVE VIEWS FROM SHT 1 TO SHT 2. ADD ITEMS 17 & 26 AND NOTE 12-13. Ø0.187 HOLE WAS Ø0.75. ADD SHT 3, ADD DETAIL J. SECTION F-F ADD D5520-1. SCALE ON VIEWS WAS 3X.	AJS	17.03.27
D	D5304-1 WAS D2973; REVISE BOM & SECTION F-F & SECTION NOTES (ZN B7-3, A8-3); REF NCR16-6160	RF	17.01.09
C	D3492 PLUG ASSEMBLIES REMOVED. REFORMAT NOTES SHT 1	AP	15.11.02
B	29.88 WAS 29.87 (ZN C2-1), INCORPORATED DEO D3582-A-1 (ZN D5-1), FORMAT TO CURRENT STD	RF	15.02.20
A	NEW ISSUE	PH	07.06.08
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	EUGENE, OR	
CHECKED	MJE	DRAWING NO.	REV. E
MFG. APPR.	DP	D3582	SHEET 1 OF 4
APPROVED	DP	TITLE	SCALE
DE APPR.	DP	BK 117 SKIDTUBE ASSEMBLY	NTS
DATE	17.03.27	COPYRIGHT © 2007 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE ON COMMERCE OR COMMUNICATION TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

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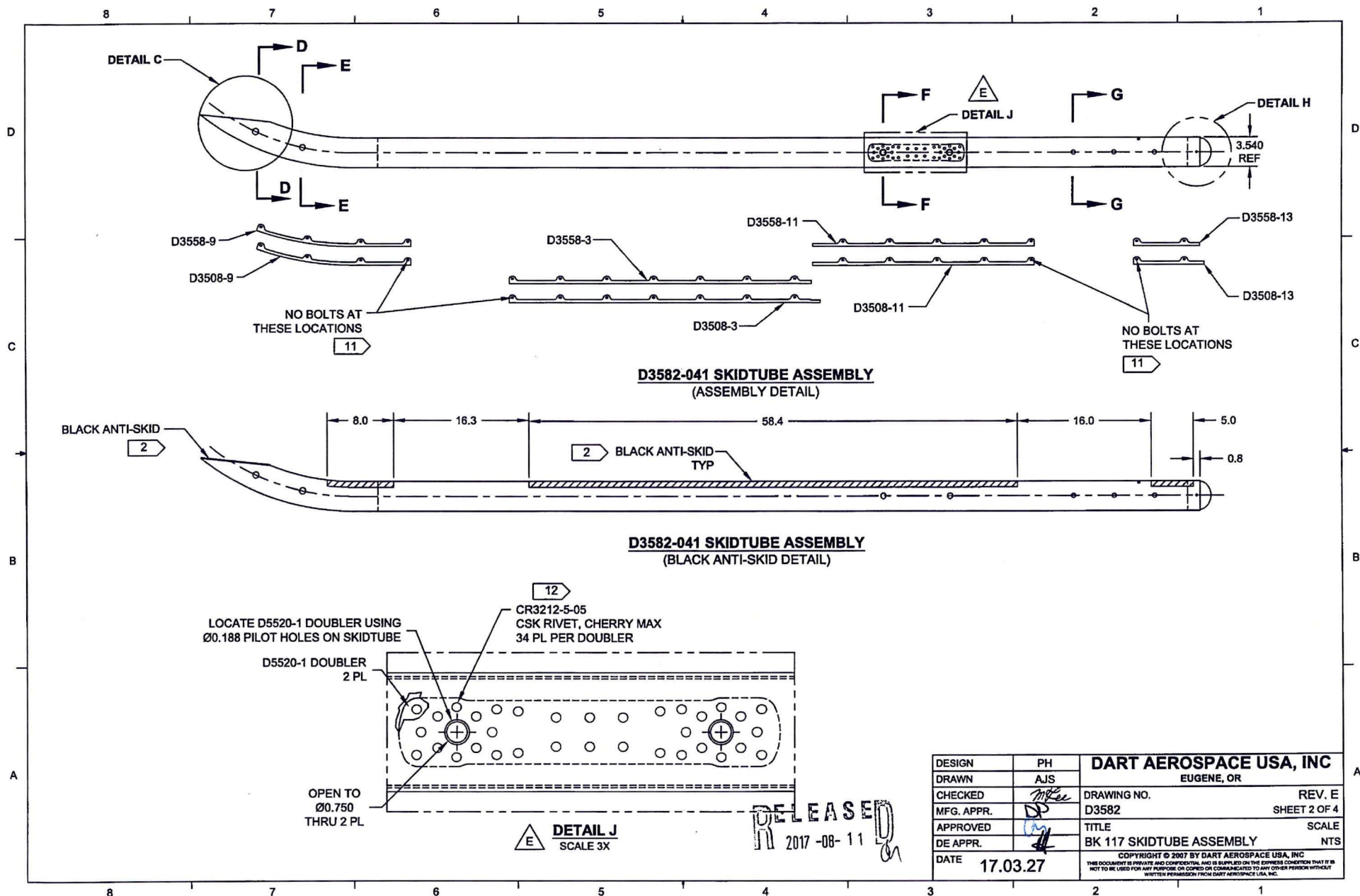


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor		
			QC / QA Coordinator		
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details: _____					



Entered: _____ Date: _____



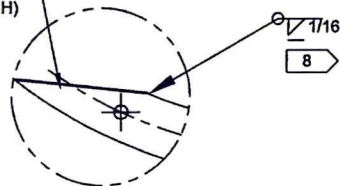
WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

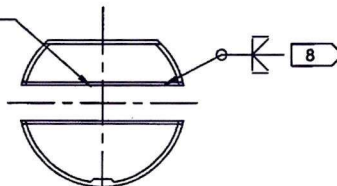
Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QS1042)	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor		
			QC / QA Coordinator		
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

D2964 CAP
(GRIND FLUSH)



DETAIL C
SCALE 4X

D2971 SPACER



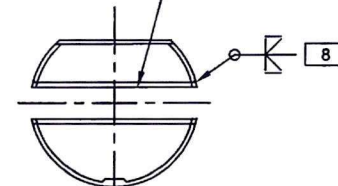
SECTION D-D
SCALE 4X

SECTION D-D NOTES

AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D2971 SPACER
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.750 DRILL TO REMOVE SPILL OVER

D3662-3 SPACER



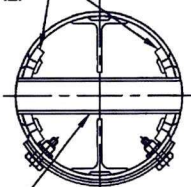
SECTION E-E
SCALE 4X

SECTION E-E NOTES

AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D3662-3 SPACER
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.672 DRILL TO REMOVE SPILL OVER

D5520-1 DOUBLER
REF



D5304-1 SPACER
2 PL

SECTION F-F
SCALE 4X
2 PL

SECTION F-F NOTES

AFTER BENDING AND DRILLING ASSY
PERFORM THE FOLLOWING:

1. INSERT D5304-1 SPACER
2. SWAGE TO Ø0.565 +0.005/-0.000 X 1.0
DEEP PER QSI 002
3. OPEN THRU HOLE TO Ø0.625
4. GRIND FLUSH

D3584-1 WEB
REF

D3662-1 SPACER
3 PL

10 AFTER FINISH, INSTALL
AELS-1032-130
INSERT 36 PL

AN3C4A BOLT (1)
NAS1149C0332R WASHER (1)
28 PL

10

SECTION G-G
SCALE 4X

SECTION G-G NOTES

AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D3662-1 SPACER (3 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.515 DRILL TO REMOVE SPILL OVER

AFTER FINISH, INSTALL
ALS7-428-165 INSERT (1)
AN4-4A BOLT (1)
NAS1149D0416J WASHER (1)
2 PL

D3584-1 WEB
REF

AN3-5A BOLT (1)
NAS1149D0332J WASHER (1)
2 PL

DETAIL H
SCALE 4X

SEAL WITH
SIKAFLEX -241/-291

D2965 CAP

9

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	EUGENE, OR	
CHECKED	M. Lee	DRAWING NO.	REV. E
MFG. APPR.	DS	D3582	SHEET 3 OF 4
APPROVED	DS	TITLE	SCALE
DE APPR.	DS	BK 117 SKIDTUBE ASSEMBLY	NTS
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2017-08-11

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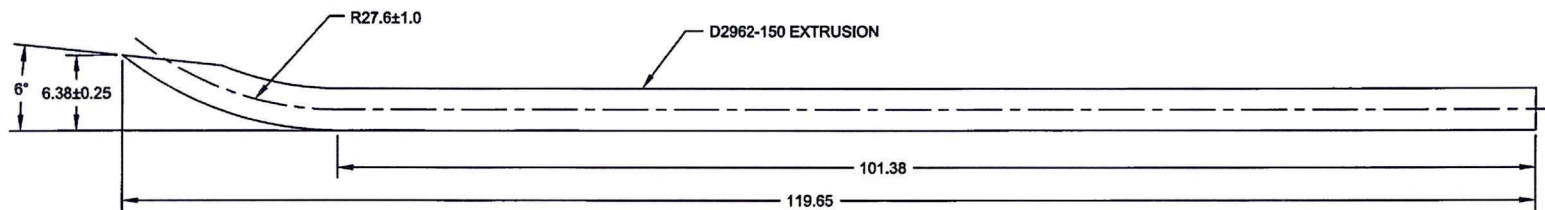


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

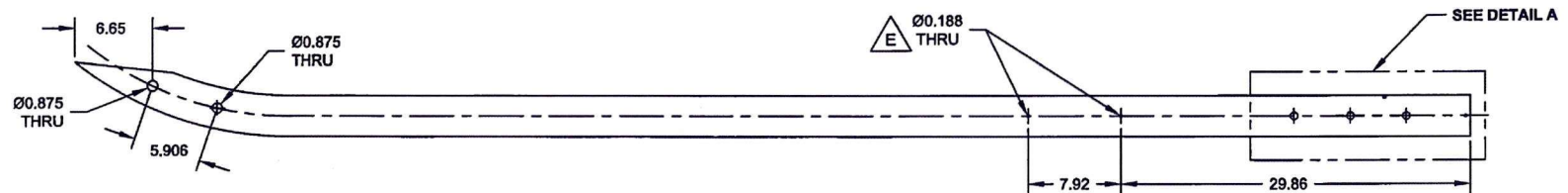
NCR No. _____

Route update only ☐

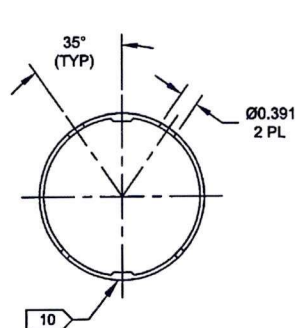
Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor		
			QC / QA Coordinator		
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



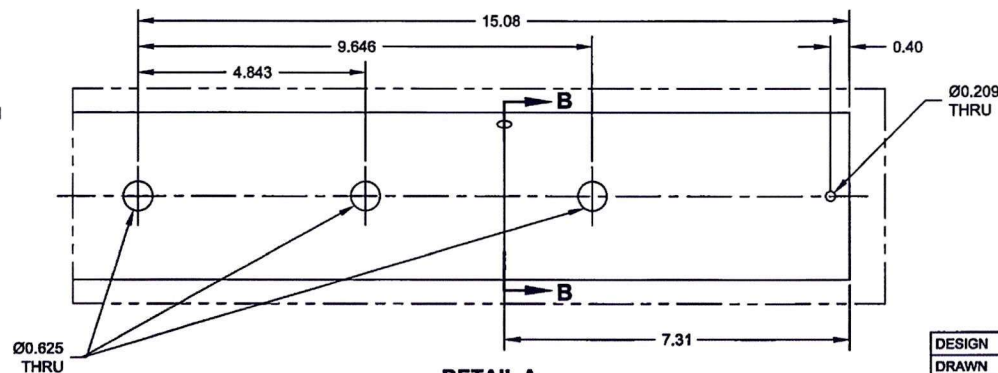
D3582-1 BENDING AND CUTTING DETAIL



D3582-1 DRILLING DETAIL



SECTION B-B
SCALE 5X



DETAIL A
SCALE 5X

RELEASED
2017-08-11

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	EUGENE, OR	
CHECKED	<i>Miles</i>	DRAWING NO.	REV. E
MFG. APPR.	<i>[Signature]</i>	D3582	SHEET 4 OF 4
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	BK 117 SKIDTUBE ASSEMBLY	NTS
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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
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			Completed By		
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Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					